CAA CAP 1616 Options Appraisal Assessment (Phase III Final)

Title of airspace change proposal	London Southend CAS (CTA 10 & 11)		
Change sponsor	London Southend Airport		
Project no.	ACP-2015-25		
Case study commencement date	20/02/2020	**Case study report as at**	20/02/2020

Account Manager: [redacted]	**Airspace Regulator (Engagement & Consultation):** [redacted]	**IFP:** [redacted]	**OGC:** [redacted]
Airspace Regulator (Technical): [redacted]	**Airspace Regulator (Environmental):** [redacted]	**Airspace Regulator (Economist):** [redacted]	**ATM (Inspector ATS Ops):** [redacted]

Instructions

To aid the SARG project leader's efficient project management, please highlight the "status" cell for each question using one of the four colours to illustrate if it is:

Resolved - GREEN Not Resolved – AMBER Not Compliant – RED Not Applicable - GREY

Guidance

The broad principle of economic impact analysis is **proportionality**; is the level of analysis involved proportionate to the likely impact from that ACP? There are three broad levels of economic analysis; qualitative discussion, quantified through metrics, and monetised in £ terms. The more significant the impact, the greater should be the effort by sponsors to quantify and monetise the impact.

1. Background – Identifying the Do Nothing (DN) /Do Minimum (DM) scenarios			Status
1.1	**Are the outcomes of DN/DM scenarios clearly outlined in the proposal?**		☒ ☐ ☐ ☐
1.1.1	Has the change sponsor produced an Options Appraisal (Phase III - Final) which consists of the Full appraisal with any refinements or changes made as a result of the Stage 2 formal consultation with stakeholders? [E24]	The Sponsor produced the Options Appraisal for the first time because this ACP has previously been assessed by the CAA under the regulatory requirements specified under CAP 725 and options appraisal was not a requirement until the DfT has specified that some aspects of the new CAP 1616 and ANG 2017 should be applied retrospectively. As it was determined by the DfT that, whilst this ACP would continue to be addressed under the old CAP 725, options appraisal of CAP 1616 should be included in an Addendum to this ACP, the Sponsor conducted one full phase of options appraisal.	☒ ☐ ☐ ☐

2. Direct impact on air traffic control					Status
2.1	**Are there direct cost impacts on air traffic control / management systems?** **If so, please provide below details of the factors considered and the level in which this has been analysed.**				☒ ☐ ☐ ☐
2.1.1	*Examples of costs considered (please add costs that have been discussed, and any reasonable costs that the Airspace Regulator (Technical) feels have NOT been addressed)* Specific ATC/AMS costs will include publication of the changes in the AIP, changes to certain ATC video maps and paper charts, updates to Aircraft Navigation System Databases, and ATCO briefing/training on the new airspace. Given the relatively simple nature of the changes, they may be considered as part of "business as usual" within the wider routine periodic updates of aviation information, and thus not specifically quantified.				
		Not applicable	Qualitative	Quantified	Monetised
2.1.2	Infrastructure changes		X	N/A	N/A

2.1.3	Deployment	X			
2.1.4	Training	X			
2.1.5	Day-to-day operational costs / workload / risks	X			
2.1.6	Other (provide details)	X			
2.1.7	Comments The Sponsor stated in the Options Appraisal Section (Section 5) of the Addendum to ACP-2017-25 updated February 2020 document that there will be minimal infrastructure costs associated with the change proposed.				
2.2	**Are there direct beneficial impacts on air traffic control / management systems?** **If so, please provide details and how they have been addressed:**				☒ ☐ ☐ ☐
2.2.1	*Examples of benefits considered*	Not applicable	Qualitative	Quantified	Monetised
2.2.2	Reduced work-load	X			
2.2.3	Reduced complexity / risk	X			
2.2.4	Other (provide details)		X	N/A	N/A
2.2.5	Comments The Sponsor stated in Options Appraisal that the availability of CTA-10X and CTA-11 for tactical use will substantially improve the flexibility and ability for ATC. The Sponsor also mentioned the likely results of such impact would be maximisation of airspace efficiency and sustainability of the forecast traffic growth.				
2.3	**Where monetised, what is the net monetised impact on air traffic control (in net present value) over the project period?** N/A				
2.4	**Are the direct impacts on air traffic management analysed accurately and proportionately?** The Sponsor qualitatively assessed the impacts listed on CAP 1616 and provided the justification why the benefits estimated cannot be specifically quantified in any way.				☒ ☐ ☐ ☐

3. Changes in air traffic movements / projections	**Status**

3.1	**What is the impact of the ACP on the following and has it been addressed in the ACP proposal?**				☒ ☐ ☐ ☐
		Not applicable	Qualitative	Quantified	Monetised
3.1.1	Number of aircraft movements		X	X	N/A
3.1.2	Type of aircraft movement		X	N/A	N/A
3.1.3	Distance travelled		X	N/A	N/A
3.1.4	Area flown over / affected		X	N/A	N/A
3.1.5	Other impacts		X	N/A	N/A
3.1.6	Comments With the proposed change, the sponsor aims to reduce the complexity of the airspace which is estimated to increase controller capacity to manage traffic, including itinerant GA transit traffic, reducing the likelihood of access denials and increasing the flexibility of routings.				
3.2	**Has the forecasting of traffic done reasonably using best available guidance (e.g. DfT WebTAG, the Green Book, Academic sources…etc?)** The traffic forecast was only provided for next two years. This is not in line with the process because CAP 1616 requires traffic forecasts for a period of at least 10 years from the intended year of implementation. However, this ACP is not being considered under CAP 1616 but only options appraisal is specifically determined by the DfT to be addressed in this Addendum in line with CAP 1616 Appendix E.				☐ ☒ ☐ ☐
3.3	**What is the impact of the above changes (3.1) on the following factors?** This change is looking to support the use of off-shore holding and reduce low-level holding over Southend, potentially providing that have the potential to provide local air quality, noise & fuel burn emissions improvements.				
		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X	N/A	N/A
3.3.2	Fuel Burn		X	N/A	N/A
3.3.3	CO2 Emissions		X	N/A	N/A
3.3.4	Operational complexities for users of airspace		X	N/A	N/A
3.3.5	Number of air passengers / cargo		X	X	N/A

3.3.6	Flight time savings / Delays		X	N/A	N/A
3.3.7	Air Quality		X	N/A	N/A
3.3.8	Tranquillity		X	N/A	N/A
3.4	**Are the traffic forecast and the associate impact analysed proportionately and accurately according to available guidelines (e.g. WebTAG or the Green Book?)** The traffic forecast was only provided for next two years. This is not in line with the process because CAP 1616 requires traffic forecasts for a period of at least 10 years from the intended year of implementation. The associate impact analysis was carried out duly in line with CAP 1616 process; all the impacts were analysed qualitatively as the sponsor justified it would be disproportionate to quantify the levels of traffic that would be diverted from other areas into these CTAs due to tactical and random proposed volumes of airspace.				
3.5	**What is the total monetised impact of 3.3? (Provide comments)** N/A				

4. Benefits of ACP					**Status**
4.1	**Does the ACP impact refer to the following groups and how they are impacted by the ACP?**				
		Not applicable	Qualitative	Quantified	Monetised
4.1.1	Air Passengers		X	N/A	N/A
4.1.2	Air Cargo Users		X	N/A	N/A
4.1.3	General aviation users		X	N/A	N/A
4.1.4	Airlines		X	N/A	N/A
4.1.5	Airports		X	N/A	N/A
4.1.6	Local communities		X		
4.1.7	Wider Public / Economy		X	N/A	N/A

4.1.8	Comments The Sponsor stated that traffic levels have grown substantially at LSA since the introduction of the controlled airspace and the number of passengers currently exceed the forecast provided in ACP-2015-01. The forecast growth is provided for the total ATM which constitutes landings and take-offs of aircraft engaged on the transport of passengers, cargo, mail on commercial terms. The Sponsor also confirmed that all scheduled movements, including those operated without a load, those loaded with cargo and air taxi movements, are included. In terms of GA and Airlines impact, please see the answers to Question 3.1.6. Reduction in fuel burn is another estimated benefit for GA and Airlines due to the possibility of additional airspace. With respect to wider society impact, the Sponsor estimates likely impacts of opportunities for more efficient arrival profiles, less over-land track mileage and greater potential for achieving CDAs would be reduced carbon emissions. The Change could also be expected through the accommodation of improved flight efficiency at low levels, allow CCO's and therefore have an improved effect (generally) on the efficiency of flight, and local air quality in the AQMA that underlies the Change proposed.	
4.2	**How are the above groups impacted by the ACP, especially (but not exclusively) looking at the following factors: below:**	
4.2.1	Improved journey time for customers of air travel	Positively
4.2.2	Increase choice of frequency and destinations from airport	Positively
4.2.3	Reduced price due to additional competition because of new capacity	Not applicable
4.2.4	Wider economic benefits	Positively
4.2.5	Other impacts	Not applicable
4.2.6	Comments	
4.3	**What is the overall monetised impacts associated with 4.1 and 4.2 the above?** N/A	
4.4	**What are the non-monetised but quantified impacts of the above? (Insert details of description)** None of the impacts analysed qualitatively further improved into a quantitative analysis. However, the Sponsor provided the forecast for total ATM and PAX numbers as provided below.	

Year	Total Movements	ACP-15-01 Forecast	Forecast Update 2019	Total ATMs	ACP-15-01 Forecast	Forecast Update 2019
2014	30,514	42,065		12,588	11,942	
2015	23,538	44,057		9,985	14,696	
2016	23,449	45,088		9,201	16,335	
2017	26,674	46,565		12,158	18,271	
2018	32,531	48,254		17,613	20,520	
2019	36,296	50,451		18,378	23,168	
2020		53,347	45,931		26,412	27,104
2021			53,300			37,796

Table 1: Actual vs Forecast Total Movements & ATMs

Year	Total Pax	ACP-15-01 Forecast	Forecast Update
2019			
2014	1,102,260	919,794	
2015	900,634	1,158,721	
2016	874,411	1,278,626	
2017	1,091,738	1,415,872	
2018	1,480,139	1,574,161	
2019	2,041,556	1,758,240	
2020		1,974,236	2,839,064
2021			4,090,430

Table 2: Total Passengers vs Forecast

Year	CTA/CTR Transits		
	Requested	**Accepted**	**Refused**
2015	8,428	8,421	7
2016	10,062	10,059	3
2017	9,994	9,984	10
2018	9.062	9,060	2
2019	7,955	7,937	18

Table 3: Controlled Airspace Transits

	<table><tr><th>Year</th><th>LARS</th></tr><tr><td>2015</td><td>24,628</td></tr><tr><td>2016</td><td>25,075</td></tr><tr><td>2017</td><td>24,075</td></tr><tr><td>2018</td><td>21,941</td></tr><tr><td>2019</td><td>20,649</td></tr></table> Table 4: Provision of LARS Services
4.5	**What are the qualitative / strategic impacts described above?** Please see the answers to Question 3.1.6 and 4.1.8.
4.6	**What is the overall monetised benefits-costs ratio (BCR) of the policy? Is it more than 1?** N/A
4.7	**Have the sponsors provided reasonable justification for the proportionality of analysis above?** Yes, the Sponsor stated in the Options Appraisal that the proposed volumes of airspace would be tactical and random due to unavailability of IFPs or structures contained with them. Therefore, the Sponsor claimed it is not possible to quantify the levels of traffic that would be diverted from other areas into these CTAs.
4.8	**If the BCR is less than 1, are the quantitative and qualitative strategic impacts proportional to the costs of the ACP?** N/A

5. Other aspects	
5.1	Nil

6. Summary of Assessment of Economic Impacts & Conclusions	
6.1	The proposed change aims to reduce the complexity of the airspace with the added flexibility that CTA-10X and CTA-11 provide. The Sponsor estimates implementation of this change will increase controller capacity to manage traffic, including itinerant GA transit traffic, reducing the likelihood of access denials and increasing the flexibility of routings. Albeit the claim of the Sponsor was that it was not proportionate to quantify the environmental impact of the proposed change, the estimation is that implement change would result in flights being displaced over sea reducing the likelihood of noise impact on health and quality of life. In addition to this, carbon emissions and fuel burn are estimated to be reduced by comparison of 'do nothing' option and 'implement change' due to opportunities for more efficient arrival profiles, less over-land track mileage and greater potential for achieving

	CDAs. The Sponsor is requested to conduct options appraisal for this Addendum to ACP-2017-25 as DfT specifically determined options appraisal is one of the certain elements placed upon LSA by the DfT. The options appraisal included in this Addendum only addresses the qualitative analysis on the proposed option versus 'do nothing' option. The Sponsor has not provided a further quantitative analysis. However, this is justified with the rationale which implies the use of the proposed volumes of airspace would be tactical and random as there are no IFPs or structures contained within them and therefore it is not proportionate for the Sponsor to quantify the levels of traffic that would be diverted from other areas into these CTAs.

Outstanding issues?		
Serial	Issue	Action required
1	-	-
2		

CAA Final Options Appraisal Assessment Completed by	Name	Signature	Date
Airspace Regulator (Technical)	[redacted]	[redacted]	07/04/2020
Airspace Regulator (Economist)	[redacted]	[redacted]	20/02/2020
Airspace Regulator (Environmentalist)	[redacted]	[redacted]	Click or tap to enter a date.
ATM – Inspector ATS (Ops)			Click or tap to enter a date.